

03–010 Measurement of cylinder bores

Data

Engine ¹⁾		615		616, 617 1st version		2nd version					
Version	Group No.	Piston dia.	Cylinder bore	Piston dia.	Cylinder bore	Piston dia.	Cylinder bore				
Standard	Cylinder 1	0	86.98	87.009–87.018	90.98	91.009–91.018	90.88	90.909–90.918			
		1	86.99	87.019–87.028	90.99	91.019–91.028	90.89	90.919–90.928			
		2	87.00	87.029–87.038	91.00	91.029–91.038	90.90	90.929–90.938			
	Cylinders 2–4 and 5	0	86.98	86.998–87.008	90.98	90.998–91.008	90.88	90.898–90.908			
		1	86.99	87.009–87.018	90.99	91.009–91.018	90.89	90.909–90.918			
			87.00	87.019–87.028	91.00	91.019–91.028	90.90	90.919–90.928			
Maximum tolerance limit lengthwise or crosswise				0.10							
Permissible ovality and conicity				as new	0.014						
				tolerance limit	0.05						
Permissible tolerance perpendicular to crankshaft axis, relative to cylinder height				0.05							
Permissible peak-to-valley height				0.002–0.004							
Permissible waviness				50 % of peak-to-valley height							
Chamfer of cylinder bores				see illustration							

¹⁾ There are no repair stages for these engines.

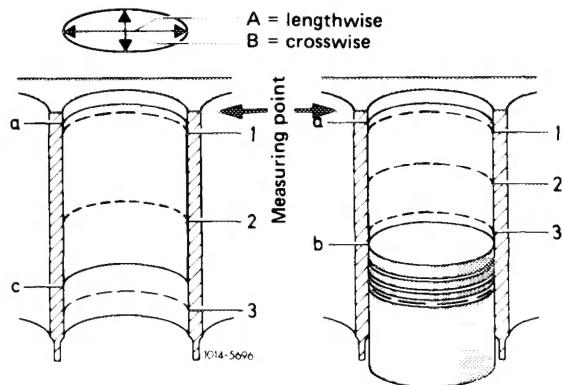
Note

In addition to a visual inspection, it is also absolutely essential to measure the cylinder bores in reply to complaints about "heavy oil consumption".

Clean cylinder bores are to be measured with an internal measuring instrument at points 1, 2 and 3 in lengthwise direction A (piston pin axis) and in crosswise direction B.

With pistons in situ, measuring point No. 3 is barely above the piston; the latter must be at bottom dead center.

- a Top return point of 1st piston ring
- b Bottom dead center of piston
- c Bottom return point of oil scraper ring



Chamfer cylinder bores after boring.

The material allowance for honing must not exceed
0.05 mm.

